REMARKS

The last Office Action has been carefully considered.

It is noted that claims 1 and 6 are rejected under 35 U.S.C. 102(b) over the patent to Schwarz

Claim 8 is rejected under 35 U.S.C. 102(a) over the patent to Kokami.

Claims 3-5 are rejected under 35 U.S.C. 103 over the patent to Schwarz in view of the applicant's admission of prior art.

Also, the specification and the drawings are objected to and the claims are rejected under 35 U.S.C. 112.

In connection with the Examiner's formal objections and rejections, applicants have submitted herewith a drawing showing the OR circuit as required by the Examiner. A wired OR circuit is marked in the enclosed copy. All the comparators 14 are connected to a pull-up resistor. By means of transistors 17, one of which is assigned to each comparator

element 14, it can be selected, which of the (-) entries of the four comparator elements 14 is to be compared with the reference voltage U_+ applied above the pull-up resistor. The wired OR-circuit does not constitute a separate component, but rather is a part of the entire circuit shown in Figure 4.

It is believed that the Examiner's grounds for formal objections and rejections are therefore eliminated.

Turning now to the Examiner's rejection of the claims over the art, it is respectfully submitted that the patent to Schwarz is related to an electronic control circuit for brushless direct current motor, of the type having a coiled stator and a permanent magnet rotor, comprising an inverter circuit (10) feeding current to stator coils (21, 22, 23). A rotor-stator relative position detecting circuit (30) and a central controller (70) processes current information fed by the inventer (10), on the reference speed and the relative rotor-stator position. Command signals are sent to the inverter (10). The detecting circuit (30) has low pass filters (1, 2, 3) connected to terminals φ_1, φ_2, φ_3) for supplying current to the motor coils. Further the detecting circuit (30) is connected with the output (F_1, F_2, F_3) of each low pass filter (1, 2, 3), being connected to the noninverting input of a corresponding voltage comparator (59, 60, 61) through a capacitor (56).

An inverting input (M_1, M_2, M_3) of each voltage comparator (59, 60, 61) receives the output of AC corresponding filter through a capacitor (56), which causes a phase delay and also through a resistor (54) of an integrator resistor circuit, which is interconnected at a common point (m). The detecting circuit (30) further comprises another resistor circuit (55), which connects said point (M) to each inverting input of the voltage comparators.

In applicant's opinion, said detecting circuit (30) comprises three low-pass filters (1, 2, 3) each assigned to one of the phases (V_1, V_2, V_3) of the brushless direct current motor (30). According to the Schwarz patent, there is no wired OR-circuit disclosed, neither as a separate component nor being established by the components (51, 52, 54, 55, 57, 58 and 59, 60, 61) respectively. Thus, no comparison of a phase voltage with a reference voltage can be performed.

The patent to Kokami, et al which is cited against claim 8 is related to a brushless motor drive circuit including a linear amplifier for sending an output signal based upon the detected back electromotive force voltage. An output amplifier produces a motor winding drive current with rise/fall edges from a detected sinusoidal back electromotive force voltage

inducing on the winding during the steady-state operation when the motor runs at the rated speed. The output amplifier includes a set of transistors each brought to a saturated conductive state or a cutoff state in accordance with the phase conduction sequence to connect one end of each motor winding to a ground voltage source, and another transistor operated continuously to connect the neutral point, which is opposite ends of the motor windings connected together, to a power voltage source.

According to this solutions, as disclosed in column 7, lines 15, linear amplifier (1u, 1v, 1w) and low-pass filters (2u, 2v, 2w) provided the 3-phase sinusoidal signals (U2, V2, W2). According to claim 14, line 55 the linear amplifiers detect a back electromotive force voltage induced in the windings of said motor. The amplifiers deliver an analog signal thereof in accordance with the back electromotive force voltage to an input terminal of the output amplifier upon a steady-state condition the motor. According to column 15, line 10, the low-pass filters coupled to an output terminal of the linear amplifier deliver a phase-compensated back electromotive force voltage to the input terminals of the output amplifier during the steady state-operation when the brushless direct current motor runs a stated speed.

It is therefore believed to be clear that a voltag comparison of a selected phase with a reference voltage U_+ cannot be performed.

In view of these above presented remarks and amendments, it is believed that claims 1, 6 and 8 should be considered as allowable.

It is respectfully submitted that claim 10 should also be considered as allowable.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,

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